

Impact of Implementation Crashes between Lesson Study and K-13 Curriculum in Educational Services at School: A Case study in Batu, East Java, Indonesia

Abdulkadir Rahardjanto
University of Muhammadiyah Malang
rahardjanto@gmail.com

Abstract. Lesson Study (LS) which developed in Japan, has been adopted by various countries as a means of improving the learning process. The development of Lesson Study in Batu, East Java, is an effort to develop the quality of learning in schools on an ongoing basis. The research that has been carried out is a mix method research by observing informants, and school stakeholders who develop Lesson Study in Batu city and strengthened by quantitative field data. Questionnaire sheets for quantitative data give to the model teacher, observer, and headmaster. The results of this study concluded that the implementation of LSLC in Batu City qualitatively had several implementation constraints, but quantitative data showed that the application of lesson study in Batu city was able to improve the process and quality of learning.

Keywords: *crashes, lesson study, K-13 curriculum*

INTRODUCTION

Education in Indonesia has practically complex problems, especially in the education quality sector [1]. Benchmarking the quality of education in Indonesia requires a comparison that balanced with the state conditions regionally and internationally [2]. As a comparison, the quality of mathematical understanding can use as a basis for thinking. Unfortunately, the assessment of the results of mastery of mathematics in Indonesia is still relatively low [3] [4] [5] [6] [7]. Little essential thinking ability is a condition that is very upsetting for the government and society [2]. In a *bottom-up manner*, community groups, professional groups, and the government try to overwhelm the limitations of the quality of education with various educational innovations that usually taken from education practitioners with specialized expertise [8] [9] [10] [11].

Various factors triggering the low quality of Indonesian education have been analyzed and improving the quality of teachers [12] is considered capable of being one of the leading solutions to these problems. Teacher competency is thought to have a significant role in the practice of education held by a country [13].

Teacher competency in improving the quality of education in students at various levels of education, ranging from primary school, junior secondary education, and senior secondary education has a principal role [14] in enlightening the quality of education in Indonesia. In particular, to improve the competence of culture in Indonesia, the government has delivered special incentives for teachers called teacher professional grants based on government regulation No. 41 of 2009. Unfortunately, at the start of the professional teacher allowance, it has not shown a positive correlation with the quality of education in Indonesia [15] [16]. To support the stepping up of teacher professionalism, simultaneously with Teacher Professional stipends, the government massively and structurally conducts training services to handling teacher professional improvement programs through training Education programs and Teacher Professionalism Development, PLPG [17]. Those programs continued with the PPG program, which stands for Teacher Professional Education [18] [19].

In the implementation of the Teaching and Learning Process, formally, schools have been running K13 curriculum nationally. 2013 Curriculum Development is a further step in the Development of Competency-Based Curriculum which was initiated in 2004 and KTSP 2006 which includes integrated attitude, knowledge and skills competencies [20] [21], while K13 curriculum describes the curriculum achievement targets with the existence of core competencies (KI) and basic proficiencies (KD) [22]. Along with the curriculum developed by the government, at the ingenuity of the education community and the group of lecturer and teacher associations, in Indonesia, it has examined, sorted out and finally selected several methods that have been developed in various countries to be adopted and developed in Indonesia. One of these approaches is Lesson Study (LS) developed by Makoto Yoshida, who came from Japan [23]. The Lesson Study learning process in schools is extended over and done with action, interaction, formulation, validation, and academic institutionalization based on educational situation theory (DST) in supporting collaborative professionalism of teachers [24]. The application of Lesson Study in schools, it is expected that teachers will be able to

critically analyze how students need in daily learning, how to enhance students in following the teaching and learning process, and how to convalesce the quality of learning in the next meeting [25]. Therefore, LS is not only able to improve teacher professionalism, but also will alteration pedagogical practices to increase teacher wakefulness when misconceptions occur on student thinking [26]. The scope of lesson study leads to the *ontology* of learning hitches. Dudley [27] describes lesson study more severely because the use of this program can: (1) look in detail and sharper when compared to regular learning. (2) see the gap between the assumptions that the teacher imagines when students will learn the reality of what happens when students learn. (3) find out how to plan learning that is more suitable for students' needs. (4) changing teaching patterns with more emphasis on how students need to learn.

In numerous schools in various regions in Indonesia, the carrying out of the K13 curriculum combined with the LS program, one of which was in Batu city with a program called the Lesson Study Learning Community (LSLC). The accomplishment of LSLC is a professional development program for teachers in Batu. The studies that seek to study the realization of this program are essential to do so that it can provide an overview of best practice implementation together with LS and K13 curriculum in the world of education. In this study, the problems studied focused on: the impact of the collision of LS implementation with Curriculum K13 on the quality of learning. Through this research, information on the effect of LS accomplishment carried out in Batu on teacher competencies from various elements involved will be obtained. Besides, the research findings can also use as a basis for an analysis of further steps that can be taken to optimize LS implementation in Indonesia.

METHODS

Research Design

The mixed method research that has been carried out aims to access the bearing of LS implementation and K13 curriculum on the quality of learning in Batu City. This study involved four LS pilot schools in Batu, namely: Ngaglik 1 Elementary School, Muhammadiyah 4 Batu Elementary School, and Muhammadiyah 8 Batu Junior High School. The opinions of the model, observer, and headmaster teachers were analyzed to pronounce the impact of LS implementation on LSLC.

Setting and Participants

This study scrutinizes the impact of LS implementation and K13 curriculum on the quality of learning in Batu City. Fortitude of LSLC schools is the authority of the Batu City Education Office, while the determination of the teachers involved in LSLC is the clout of each school.

Instruments for Data Collection

The study was conducted using the Sequential exploratory design, as shown in Figure 1. Qualitative data obtained by using the snowball technique.

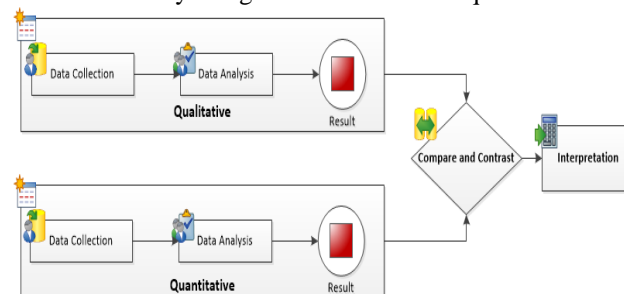


Figure 1. Sequential explanatory design

Quantitative data is clustered using a questionnaire. There is one type of survey, so the model teacher, observer, and principal get the same opinion poll. Quantitative data compendium techniques using a *Likert Scale* with a score of 1-4. Scoring guidelines for teacher teaching abilities using lesson study as in table 1 below.

Table 1. Guidelines for LSLC Teacher Teaching Ability

Score	Criteria
1	Very less
2	Less
3	Pretty good
4	Well
5	Very good

Data Analysis

Qualitative data collection using techniques, (1) participant observation, and (2) *in-depth interviews* with crucial stool pigeons. Quantitative data attained from the instrument were then analyzed using descriptive statistical analysis techniques. Data analysis pointed at looking at the central tendency of the teacher model, observer, and principal's responses to LS implementation. Because the data gained is in the form of ordinal data, the data mode calculated on each questionnaire indicator.

RESULTS AND DISCUSSION

Implementation of Lesson Study in Learning Classes

Lesson studies piloted in schools strongly support the teaching and learning process carried out in the classroom. Cautious planning before the learning process begins will help the teacher in schooling. This statement revealed to the observer (D) who stated:

"... the teacher is greatly benefited from the teaching preparation carried out in Lesson study. Schoolteachers, with the help of colleagues, can analyze the Teaching and Learning Process goings-on that will take place following the material to discuss." (D, 14/4).

One of the advantages of Lesson Study in schools observed in schools is that there is better lessons preparation in conquering the material, paperwork, and mental readiness of the educationalist. The same thing was expressed by the teacher model (NW) as follows:

"The educator groundwork carried out jointly with friends of teachers, education practitioners, and learning observers pumped me adrenaline to make a breakthrough in erudition innovation that can activate children in a pleasurable way to learn ..." (NW, 8/4).

The advantages of the thorough provision will have an impact on a profound introduction to how students learn, improve student-based culture needs systematically through teaching and learning deeds using collaborative learning methods [28], and co-worker teachers in one school and with teachers from other schools can exchange experiences in the studying process.

A different worry stated by NU (teacher observer) who said that:

... there is a fundamental difference between K 13 and Lesson Study, where one will face another. K 13 is based on the competencies to be accomplished, while Lesson Study places more emphasis on student essentials in learning. If these two things cannot be synchronized, this will cause learning bewilderment (NU, 23/4).

An underlying problem also conveyed by E (teacher observer):

... I am disturbed if there are no funding subsidies, knowledge support, and university and city government direction, this Lesson Study program will proficiency difficulties. (E, 12/4).

The teacher sees the weaknesses in the completion of the Lesson Study above are two important things that require further journeying related to the impacts that will cause in the learning process.

The Impact of LSLC on Learning Quality

Ability to Teach LSLC Teachers

The teaching adeptness of teachers who are members of LSLC Kota Batu shows that there are stimulating entities that can report on the results of this study by comparing the ability to teach lesson study based teachers conducted in each school as shown in the following figure 2.

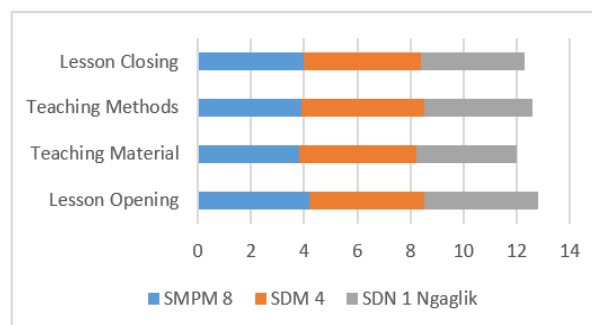


Figure 2. Teachers' ability to teach the quality of LSLC-based subject matter delivery per school in the Batu City with indicators (1) learning reflects active learning; (2) utilizing media and information technology; (3) proper management of student learning processes; (4) good class management; and (5) suitable teacher communication methods

Each school shows altered teacher schooling abilities. The aptitude to open the highest lesson taught at Muhammadiyah 4 Elementary School, then followed by the competence to open experiences at SDN 1 Ngaglik and finally followed by Muhammadiyah 8 Junior High School in Batu City. The same sequence in each school is also shown in the parameters of mastery of the teacher's material in the learning process, the use of the cramming model, the learning approach and the teacher's erudition strategy and the teacher's skill to close the lesson. The results of this study are in line with the research [29] who proposed that Lesson study applied to the school would increase the teacher's knowledgeability, and teacher expertise, while simultaneously developing learning skills in students, and eliminating the credo gap with learners [30].

Some notes that can describe are the mastery of the material at Muhammadiyah 8 Junior High School and Ngaglik Public Elementary School have not touched the score 4. Some differences can occur in each school that applies the lesson Study is in (1) Process Plan (design lesson) at school. This process plays a vital role in the implementation of LS in schools because the planning that has been carried out by the model teacher will disparage and particular input by experts and observers of education. (2) The number of apprentices studying per class. The smaller the number of students in the class, the learning interactions will run well, the attention of teachers to scholars can run very well. (3) Design of pupils bench positions. Specific to the lower class, schoolchildren bench position will greatly determine class mastery by the model teacher. Clivaz [31] provides a prominent note on improving educator teaching skills by using Lesson Study, because each study will be carried out wisely in advance, then carried out with real erudition in the classroom, and after absorbing is done, reevaluation as an perfection material in learning which will come as shown in the figure 2.

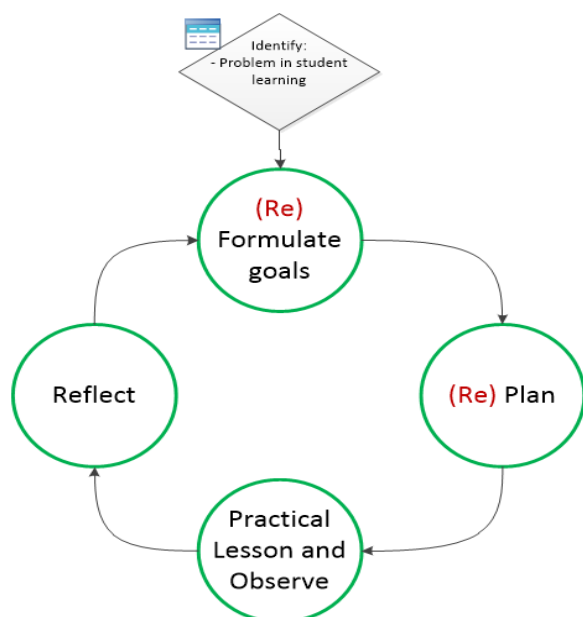


Figure 2. Lesson study cycle

A preliminary study of student credentials in learning [32] is a crucial point in the implementation of lesson study in Batu City. This study is the consequence of sharing professional knowledge based on the practice and results of learning that has done before. Hands-on lesson and observe are the leading platforms in schoolroom learning and student observation in culture. When a complete experience and perceive perform are carried out, the teacher can act as a canvasser in ongoing education. The selection of learning stratagems has an essential role in delivering learning material [33] [34]. Material appearances and physiognomies of students will resolve what strategies and learning methods are most suitable to be applied in a learning process [35]. With the implementation of LS, Batu City teachers, and LS lineups can discuss to regulate the most appropriate learning approaches to be applied at the congregation that will hold. Deliberation activities learning activities will be carried out after a practical lesson and observe completed in class. Reviewing the strengths and weaknesses of the learning that has been carried out is examined to obtain experience that will use as a follow-up.

Process achievement Learning to educate the Lesson Study at Batu school is an illustration of the countryside situation that if the teacher-driven as an agent of change, it can foster eagerness in teaching. Also, the sustainability of LS in Batu has an excellent opportunity to continue to improve because according to the explanation [11] the support of the school, principals are the primary key to habituating LS in schools. Furthermore, LS activities which at the beginning of the event felt burdensome to the teacher, but when the implementation of Lesson Study in the school *ad infinitum* can change the teacher's mindset to build the teachers more fervent in teaching [36].

CONCLUSION

In this study, the impact of the clutter of executions between Lesson Study and K 13 Curriculum shows that LS implementation can improve the eminence of the Teaching and Learning Process conducted in schools. Based on the results of this study, the solicitation of LSLC is expected to continue in Batu City. Besides, the immersion of schools and teachers on a broader scale also recommended.

REFERENCES

- [1] H. Widodo, "Potret Pendidikan Di Indonesia Dan Kesiapannya Dalam Menghadapi Masyarakat Ekonomi Asia (MEA)," *Cendekia J. Educ. Soc.*, 2016.
- [2] *SME Policy Index: ASEAN 2018*. 2018.
- [3] OECD, "Pisa 2015 Results in Focus," *OECD Publ.* 2018, 2018.
- [4] J. Tobias, J. Wales, E. Syamsulhakim, and Suharti, "Towards Better Education Quality: Indonesia's Promising Path," 2014.
- [5] B. Sugandi and A. Delice, "Comparison of Turkish and Indonesian Secondary Mathematics Curricula; Reflection of the Paradigms," *Procedia - Soc. Behav. Sci.*, 2014.
- [6] M. Rohmah and S. Sutiarto, "Analysis problem solving in mathematical using theory Newman," *Eurasia J. Math. Sci. Technol. Educ.*, 2018.
- [7] A. Minarni and E. E. Napitupulu, "Developing Instruction Materials Based on Joyful PBL to Improve Students Mathematical Representation Ability," *Int. Educ. Stud.*, 2017.
- [8] T. Suratno, "Lesson study in Indonesia: an Indonesia University of Education experience," *International Journal for Lesson and Learning Studies*. 2012.
- [9] W. Cajkler, P. Wood, J. Norton, and D. Pedder, "Lesson study as a vehicle for collaborative teacher learning in a secondary school," *Prof. Dev. Educ.*, 2014.
- [10] Parmin and E. Peniati, "Jurnal Pendidikan IPA Indonesia," *J. Pendidik. IPA Indonesia.*, vol. 1, no. 1, pp. 91–97, 2012.
- [11] T. K. Ngang and L. C. Sam, "Principal Support in Lesson Study," *Procedia - Soc. Behav. Sci.*, 2015.
- [12] J. D. Pereira, "Localized Policy: A Review of the Educational Leadership and Teacher Development Literature in Indonesia and Malaysia," *HEAD Found.*, 2016.
- [13] H. Retnawati, H. Djidu, Kartianom, E. Apino, and R. D. Anazifa, "Teachers' knowledge about higher-order thinking skills and its learning strategy," *Probl. Educ. 21st Century*, 2018.
- [14] R. Hosotani and K. Imai-Matsumura, "Emotional experience, expression, and regulation of high-quality Japanese elementary school teachers," *Teach. Teach. Educ.*, 2011.
- [15] L. S. Finkelstein, "Education in Indonesia," *Far*

- East. Surv.*, 2012.
- [16] Organization for Economic Cooperation Development, *Education in Indonesia: Rising to the Challenge*. 2015.
- [17] Gufran, A. Mukhadis, and S. C. Putro, "Pelaksanaan PLPG sebagai Wahana Pengembangan dan Audit Kompetensi dalam Sertifikasi Guru Bidang Kejuruan," *Teknol. dan Kejur.*, 2011.
- [18] R. Rosita, "Pendidikan Profesi Guru (PPG): Strategi Pengembangan Profesionalitas Guru Dan Peningkatan Mutu Pendidikan Indonesia Ratna Rosita Pangestika & Fitri Alfarisa," *Pros. Semin. Nas.*, 2015.
- [19] L. D. Prasajo, U. B. Wibowo, and A. D. H, "Manajemen Kurikulum Program Profesi Guru Untuk Curriculum Management of Teacher Professional Program for Frontier , Outermost , and Least Developed Regions," *J. Pendidik. dan Kebudayaan*, 2017.
- [20] L. Hakim, "Analisis Perbedaan Antara Kurikulum Ktsp Dan Kurikulum 2013," *J. Ilm. Didakt.*, 2017.
- [21] T. Sihono, "Upaya Menuju Demokratisasi Pendidikan," *J. Ekon. dan Pendidik.*, 2019.
- [22] Haslina, Yusrizal, and N. Usman, "Kinerja Guru Dalam Implementasi Kurikulum 2013 Pada Sma Negeri 5 Lhokseumawe," *J. Magister Adm. Pendidik.*, 2017.
- [23] I. Putri, Atmazaki, and Syahrul R, "Pelaksanaan Lesson Study Dalam Pembelajaran Bahasa Indonesia Siswa Kelas VII.5 MTs N Lubuk Buaya Padang," *J. Bahasa, Sastra dan Pembelajaran*, vol. 1, no. 1, pp. 108–117, 2013.
- [24] D. Lapsley and R. Woodbury, "Moral-Character Development for Teacher Education," *Action Teach. Educ.*, vol. 38, no. 3, pp. 194–206, 2016.
- [25] T. Fujii, "Designing and adapting tasks in lesson planning: a critical process of Lesson Study," *ZDM - Math. Educ.*, 2016.
- [26] M. Vrikki, P. Warwick, J. D. Vermunt, N. Mercer, and N. Van Halem, "Teacher learning in the context of Lesson Study: A video-based analysis of teacher discussions," *Teach. Teach. Educ.*, 2017.
- [27] P. Dudley, "Lesson Study: A handbook," *Www.Lessonstudy.Co.Uk*, 2014.
- [28] A. Takahashi and T. McDougal, "Collaborative lesson research: maximizing the impact of lesson study," *ZDM - Math. Educ.*, 2016.
- [29] H. Susilo, "Lesson Study Sebagai Sarana," *Semin. dan Lokakarya PLEASE 2013 di Sekol. Tinggi Theol. Aleth. Jalan Argopuro 28-34*, pp. 1–32, 2013.
- [30] A.-L. Halvorsen and A. Kesler Lund, "Lesson Study and History Education," *Soc. Stud.*, 2013.
- [31] S. Clivaz, "Lesson study as a fundamental situation for the knowledge of teaching," *Int. J. Lesson Learn. Stud.*, 2018.
- [32] K. Asfani, H. Suswanto, and A. P. Wibawa, "Influential factors of students' competence," *World Trans. Eng. Technol. Educ.*, 2016.
- [33] R. Bjuland and R. Mosvold, "Lesson study in teacher education: Learning from a challenging case," *Teach. Teach. Educ.*, 2015.
- [34] A. Veloo, M. M. A. Komuji, and R. Khalid, "The Effects of Clinical Supervision on the Teaching Performance of Secondary School Teachers," *Procedia - Soc. Behav. Sci.*, 2013.
- [35] A. Hakim, "Contribution of Competence Teacher (Pedagogical, Personality, Professional Competence and Social) On the Performance of Learning," *Int. J. Eng. Sci.*, 2015.
- [36] C. C. Loose, "Japanese lesson study sustaining teacher learning in the classroom context," 2014.